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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/702,469	11/07/2003	Sang Chul Yoon	P23878	8288

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EXAMINER

RODRIGUEZ, PAUL L

ART UNIT PAPER NUMBER

2125

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/702,469	YOON ET AL.	
	Examiner	Art Unit	
	Paul L. Rodriguez	2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment filed 12/1/05 has been received and considered. Claims 1-15 are presented for examination.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/1/05 has been entered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-5, 7-13 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Takai et al (U.S. Pub 2002/0029096). The claimed invention reads on Takai et al as follows:

Takai et al discloses (claim 1, 9, 15) a central control system (figure 4) that controls multiple air conditioners (paragraph 14, 15) including at least one outdoor device (reference number 301) and a plurality of indoor devices (paragraph 26), said central control system comprising a central controller (reference number 700-702, paragraph 47) connected to the

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multiple air conditioners through a dedicated line (reference number 401), for transmitting and receiving signals based on an air conditioner communication protocol (paragraph 28), to control the multiple air conditioners (paragraph 27, 30, 31, 49), the central controller being connected to an external Internet network (Figure 4), for transmitting and receiving signals based on an Ethernet communication protocol (paragraph 47-49) and to receive a control command for the multiple air conditioners (paragraph 27, 49), and a protocol converter physically separate from the central controller that performs a communication protocol conversion of a signal (paragraph 47-49, paragraph 48 "...100 provided with a web browser...", engine 120, driver 130 and reference number 200-203 reads on protocol converter), whereby the control command input at a remote location can be transmitted to the multiple air conditioners through the Internet network (paragraph 27, 47-49), wherein the central controller transmits signals to and receives signals from the protocol converter using Ethernet communication protocol (paragraph 47-49) and the protocol converter converts signals between Ethernet communication protocol and the air conditioner communication protocol (paragraph 47-49, because there are numerous elements found in the data conversion path, the Examiner considers each element as part of the "protocol converter". The browser in 100 converts Internet protocol to usable format for the computer system 100, the engine formats a signal for the applications, the device driver converts for proper transmission on path 400 to element 200, 202 performs conversion from USB to PAC format as a whole, the Examiner considers this to read on a protocol converter), (claim 2, 10) wherein the central controller comprises a key input device that receives the control command associated with the multiple air conditioners (reference number 700-702, paragraph 47) and an output device that outputs control conditions of the multiple air conditioners operated according to the

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control command (reference number 700-702, paragraph 47-49), (claim 3, 11) wherein the central controller comprises: a control program driver that drives a control program accessible by a GUI (Graphic User Interface) for controlling the multiple air conditioners (paragraph 43, 44, 47, 48), (claim 4, 12) wherein the central controller comprises a control program transmitter that transmits the control program by downloading through an Internet browser by a remote controller in response to a request from the remote controller received through the Internet network (paragraph 48, 49), (claim 5, 13) wherein the central controller comprises a signal storage device that stores the control command received through the Internet network (paragraph 47), an Internet data storage device that stores data for accessing the Internet network and IP address data (paragraph 47-49) and a controller that controls the flow of signals transmitted and received through the Internet network, and controls the protocol converter for performing a communication protocol conversion of a signal (paragraph 28, 29, 31), (claim 7) a method of operating a central control system for multiple air conditioners (paragraph 14, 15, 27, 49) comprising receiving by a central controller (reference number 702) a control command for the multiple air conditioners that is transmitted from a remote controller over an Internet network (reference number 700, 701, paragraph 47-49), transmitting by the central controller (reference number 702), the control command to a protocol converter (reference number 100, 200) using an Ethernet communication protocol (paragraph 48, because the command is received with a browser, Ethernet protocol is used/anticipated), converting by the protocol converter the received control command into a control command based on an air conditioner communication protocol (paragraph 28, 29, 31), transmitting the control command based on the air conditioner communication protocol to the multiple air conditioners (paragraph 28-31, 40), performing a

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control operation of the multiple air conditioners in response to the control command based on the air conditioner communication protocol (paragraph 26-29, 31, 47-49) and transmitting data representing control conditions of the multiple air conditioners to the remote controller over the Internet network (paragraph 47, 48), (claim 8) further comprising converting the control condition data into control condition data based on an Ethernet communication protocol prior to transmission over the Internet network (paragraph 47, 48). Examiner would like to point out that any reference to specific figures, columns and lines should not be considered limiting in any way, the entire reference is considered to provide disclosure relating to the claimed invention.

5. Claims 7 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Masui et al (U.S. Pub 2003/0140637). The claimed invention reads on Masui et al as follows:

Masui et al discloses (claim 7) a method of operating a central control system for multiple air conditioners, comprising receiving by a central controller a control command for the multiple air conditioners (reference number 15, paragraph 134, an operator enters commands into reference number 15, figures 13-17 show various configurations where 15 is the central controller for the multiple air conditioners) that is transmitted from a remote controller over an Internet network (paragraph 134, 141, 148, reference number 14), transmitting, by the central controller (reference number 15), the control command (paragraph 134) to a protocol converter, physically separate from the central controller (reference number 5 is physically separate from reference number 15, while the specification refers to 5 as a central remote controller, the examiner considers this apparatus to read on the protocol converter and reference number 15 to read on the central controller) using an Ethernet communication protocol (reference number 5,

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means 10 receives the command via reference number 13 in Ethernet protocol, the command is then sent to the converter 6), converting by the protocol converter the received control command into a control command based on an air conditioner communication protocol (reference number 6, paragraph 143, 148), transmitting the control command based on the air conditioner communication protocol to the multiple air conditioners (paragraph 143, 148), performing a control operation of the multiple air conditioners in response to the control command based on the air conditioner communication protocol (paragraph 148) and transmitting data representing control conditions of the multiple air conditioners to the remote controller over the Internet network (paragraph 149), (claim 8) further comprising converting the control condition data into control condition data based on an Ethernet communication protocol prior to transmission over the Internet network (reference number 87, figure 16, paragraph 212). Examiner would like to point out that any reference to specific figures, columns and lines should not be considered limiting in any way, the entire reference is considered to provide disclosure relating to the claimed invention.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

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evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takai et al (U.S. Pub 2002/0029096).

Takai et al teaches most all of the instant invention as applied to 1-5, 7-13 and 15 above. Takai et al fails to teach wherein the protocol converter is connected by a cable to the central controller through a serial port of the central controller.

Takai et al teaches the use of a USB connection, connected by a cable, to a personal computer 100, in paragraph 28 for the transfer of data and control information.

Official notice is taken that serial port cable connections to controllers were well known at the time the invention was made in the analogous art of Goldberg et al (U.S. Pat 5,086,505) and Fish et al (U.S. Pat 5,805,812) which provide serial port connections to a central controller. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize a serial port connections to and from a computer for the transfer of data because this was a well known form of flexible data communications.

Therefore, it would have been obvious to one having ordinary skill to modify the teachings of Takai et al to include the protocol converter connected by a cable to the central controller through a serial port of the central controller to obtain the invention as specified in claims 6 and 14.

Response to Arguments

8. Applicant's arguments filed 12/1/05 have been fully considered but they are not persuasive.

Applicant's arguments that the protocol converter of Takai et al is not physically separate from the personal computer 100 are taken into consideration. Examiner agrees that the previous application of Takai et al does not support a proper rejection of the claims, however, upon further consideration the art has been reapplied to more adequately reflect the current claim language. Takai et al clearly teaches that air conditioner units can be controlled by elements 700-702 which the examiner now reads as the central controller, and considers the combination of elements 100 and 200 to read on the protocol converter which is now physically separate from the central controller, see figure 4. From Takai et al, it is clear that 100 and 200 work together to convert from Ethernet protocol to an air conditioning communications protocol. Therefore the rejections of claims 1, 7, 9 and 15 are maintained.

Regarding the rejection under Meyer, the arguments are persuasive and the rejection is withdrawn.

Regarding the rejection under Masui et al, again the amended claim language has changed the way in which the Examiner is applying the art. Examiner now considers reference number 15 to represent the central control system (see figures 1, 13-17), reference number 5 represents the protocol converter. Therefore, Masui et al does in fact transmit, by a central controller (reference number 15) a control command to a protocol converter (reference number 5), physically separate from the central controller (figure 1, 13-17), using an Ethernet communications protocol (reference number 14 reference number 87, figure 16, paragraph 212)

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Based upon this application of Masui et al, the examiner considers the reference to clearly disclose the claimed invention and the rejection is maintained.

Regarding the rejection of claim 4, the rejection is withdrawn.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul L. Rodriguez whose telephone number is (571) 272-3753. The examiner can normally be reached on 6:00 - 4:30 T-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul L Rodriguez
Primary Examiner
Art Unit 2125

PLR
2/3/06